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ALBERT WHEATLEY, F.R.C.V.S.

The death of Mr. Wheatley is a loss which will be felt throughout Berkshire and throughout the veterinary profession. He was one of those all-round men who appealed to quite a variety of classes. He was a sportsman, a worker, a genial friend, a sound professional adviser, and a gentleman. For years he conducted one of the largest practices in the country and became noted for his industry and skill. Yet he found time to hunt, race and chase a little, and to take an active part in the more serious duties appertaining to membership of one or two large Agricultural Societies and two or three Veterinary Associations. The Royal Counties Agricultural Society and the Royal Counties Veterinary Medical Society will keenly miss the assistance always so willingly given by Albert Wheatley. Even more acutely will his loss be felt by friends and clients, for there was a character in the man that attracted everybody. No fuss, no playing to the gallery, but a steady determination to do his duty and to do it cheerfully was conspicuous always. And his cheerfulness often hid physical and mental distractions, for our friend suffered more than once long spells of illness which were insufficient to stop his activities but which must have told painfully upon a constitution originally as hard as nails. The last two or three years of his life were most trying. In addition to two serious illnesses ending in operations, and one dangerous motor accident—all of which he bore cheerfully—he had to face the loss of his wife, his sister, and his brother-in-law, Mr. Flanagan.

Wheatley had no children, and intended to have left his practice to a nephew—Mr. Flanagan, junr.—whom he had taken into the business. This nephew was a brilliant young man with just the characteristics which his uncle admired; industry, tact, and genial quietness. One can easily appreciate the satisfaction and pleasure which Wheatley would enjoy from a feeling that his practice would be continued by so fitting a successor, and the castles in the air he might build in his quiet moments. All these hopes were demolished suddenly by the death of his nephew after only a few hours illness. And yet he bore this, as all his other troubles, with a cheerful countenance and a silent tongue.

In his profession Wheatley made a name not only as a sound, skilful practitioner, but as one desirous to add to its collective knowledge. He made a special study of horse-shoeing and the horse's foot, and contributed his ripe experience to that fine text-book published by Messrs. Dollar and Wheatley. He had been President of the Royal Counties V.M.S. and President of the National Veterinary Association. In both capacities he did excellent work. He was a member of the Board of Examiners for some years, and it will be with grief that, at the December meeting of the Board, his colleagues will feel his absence.

What one man can do for the welfare of his profession is well accentuated by the career of Albert Wheatley. Throughout his native town and county he has left a reputation for honest work, for genial kindness, for an intelligent interest in all matters social and political, and those who only knew the veterinary profession as represented by him must have formed a high estimate of its value and position.

Veterinary Surgeons in Public Life.

Recently we noted the appointment of one veterinary surgeon—Mr. Thompson—to a magistracy in Ireland, and the re-election of another—Mr. Mulvey—to a Metropolitan Borough Council. The number of our members holding such positions is larger now than once was the case, but is nevertheless still far too small. When we compare the number of medical men, for instance, that are to be found occupying responsible local public positions in both town and country with that of veterinary surgeons, it is impossible to feel satisfied with the result. It is impossible also to avoid the conclusion that some part at least of the present insignificant *rôle* of the veterinary surgeon in the public life of his district is the fault of our own members.

Medical men are to be found upon local benches and councils throughout the kingdom. Almost, if not quite, every country district contains at least one doctor who is also a magistrate. In most cases that doctor is an average working practitioner. He is not necessarily affluent, or celebrated beyond his own district; but he is personally respected by his neighbours. There are many practitioners quite as well known and respected locally as the average medical magistrate, but a veterinary surgeon on the bench is still a rare thing.

We find the same state of things prevailing with regard to popularly elected local councils, and here we find the explanation.

The fact is that veterinary surgeons generally have not yet attempted to take the place in local public life which they are certainly entitled to take. A veterinary surgeon should be as capable of taking a prominent and responsible part in the public life of his district as a doctor or clergyman, if not more so than the latter, who is not invariably a man of the world. Many veterinary surgeons would be recognised as so capable by their neighbours, if they chose to offer themselves for public work. A few have done so, to the public benefit, and certainly not to the detriment of their own reputations, but the number is still much less than it should be.

A CASE OF CAB HORSE LAMENESS.

HENRY TAYLOR, F.R.C.V.S., Hayward's Heath.

The subject of the above case was a 14.2 cob of my own, and since I thus had the opportunity of observing the onset and progress of the disease, and also as it presents one or two interesting features it is perhaps worth recording.

For some months before the onset of the fetlock trouble, the cob had pointed both fore feet, and though at this time she went without lameness and even with fair action, yet that fact raised a suspicion of commencing navicular disease. The next point to mention is a thing noticed by the groom, who remarked to me one day that the cob did not like her fore fetlocks dressed, and that they seemed a bit tender. I gave them rather a superficial examination but noticed no heat or swelling, they were remarkably clear cut and clean I thought.

Shortly after the cob began to go a little short on first coming out of the stable, and the synovial sacs of the fetlock joint proper began to bulge a lttle on either side and just above the articulation.

At this time, owing to careless shoeing, the smith had allowed the heels of both fore feet to become very high, so I gave instructions for them to be lowered. Instead of lowering them in a common-sense manner he lowered them to an inordinate degree. From this period the real trouble dates, but it was assisted by the fact of the cob having unavoidably to perform a hard extra journey. The morning after the above mentioned shoeing she went out a little lame in the off fore. I thought it would improve, but it did not, and as luck would have it when I got to one point of call I was handed a wire to attend further on. The journey entailed the ascent and descent of some steep hills, and in consequence the cob, far from improving, arrived home very lame. On arrival the shoe was removed and the foot tested, but apparently there was nothing sufficiently wrong with the nailing or fitting to account for the degree of lameness. In a week she returned to work, though not quite sound, and continued to work until one snowy day on which the snow balled in the horse's feet very badly. On this occasion, owing to the insecure foothold, she floundered about, and was with difficulty got home owing to the excessive lameness.

This was the first occasion upon which manipulation and pressure on the fetlock caused pain. There was no swelling, however, and not a great deal of heat. Pain was most evident on rotation of the pastern, and the lameness was worse when the cob was turned from the lame side. In a week a slight bone swelling could be detected on the antero-internal part of the articulation, and this was very sensitive to pressure with the finger. The joint was shortly afterwards blistered and the animal turned out for about two months. The lameness had not completely gone when the cob was brought in, so a very pointed firing iron was inserted deeply right into the enlargement. In one or two days afterwards the cob trotted almost sound, and I decided to try the effect of a little quiet regular work. The cob now did not point so much as formerly. A feature of cab-horse lameness is the fact that a horse will often come out practically sound and be "hopping lame" at the end of a short journey. In this case, however, the lameness did not augment with work, but there was one peculiarity, the cob would come out almost sound and remain so for the journey, and this state of affairs would continue for a week, then without any conceivable cause she would be found one morning very lame. A similar thing happened when she received a few days rest on two or three occasions. Entering the stable quite as usual and rested for several days, she would emerge dead lame. This was very curious and quite inexplicable. No cause could even be hinted at as the origin of the fluctuation of the lameness.

This was not satisfactory from an economic point of view, so I then disposed of the cob.

Remarks.—The cause of cab-horse lameness in London has been attributed to the quick turning of corners by this class of animal, thereby throwing an undue weight on the inner portion of the articulation. In this case there was probably some little articular trouble when the fetlocks became tender whilst being groomed, and which the lowering of the heels aggravated. Though why this should have very much effect is not very apparent, for alteration of the angle formed by the wall of the foot with the ground has little or no effect on the obliquity of the suffraginis, the hinge movement apparently taking place in the pedal joint. At the time of the second lameness it seemed as if a small piece of the head of the suffraginis had moved a little outwards from the body of the bone. Finally there is the noteworthy alteration in the degree of lameness. The cob may, or may not, have had incipient navicular disease, the feet were unlike that and also the action. In any case there was little doubt as to the seat of the lameness, for to the end, *i.e.* about six months after the lameness set in, the cob always flinched if the enlargement were pressed. In the photograph the point of the arrow points to the small enlargement.

OSTITIS OF THE DISTAL EXTREMITY OF THE SPLINT BONES.

If there is one portion of the appendicular skeleton of the horse which one would naturally think would be immune to disease, that portion is the distal extremities of the internal and external small metacarpals. Functionless vestigial remains, non-weight bearing, there is small reason why they should even be involved in any of the inflammatory processes going on in their vicinity.

The original of the photograph I found recently at the kennels, and the history I could glean is scanty. It came from a polo pony which for some months previous to being destroyed had been turned out on account of lameness. I understand that the leg from which the bones came was practically round from the knee to below the fetlock.

Probably the initial lesion was sesamoiditis, and the splint bones somehow became secondarily affected. The former lesion is quite a typical one. With regard to the small metacarpals, one can see their distal ends are much enlarged, the bone is rough and nodular. The one shown in the photograph is the more affected of the two, but in each case the enlargement is quite separate from the large metacarpal for fully half its length. The posterior part of the large metacarpal between the two enlargements is raised and also nodular, a condition which must have affected the suspensory ligament.

HENRY TAYLOR, F.R.C.V.S.

Hayward's Heath.

SCARLET FEVER IN THE COW?—SOME CRITICAL NOTES.

By R. BARRON, M.R.C V.S., Blandford.

An interesting and elaborate report of an outbreak of scarlet fever in London and Surrey was published on July 1st of this year by the Public Health Committee of the L.C.C., in which very strong suspicions are cast upon the cow as the source of scarlet fever. The cause of this particular outbreak is skilfully traced to the milk supplied by two adjacent farms. The medical gentlemen who carried out the enquiry being unable to find evidence of any human source of infection came to the conclusion expressed by Sir Shirley Murphy in the first section of the report, that the scarlet fever infection was due to "some condition of a cow or cows." The notorious "Hendon cow disease" is quoted by Sir Shirley Murphy in support of a theory that the "morbid condition of the cow was responsible for the subsequent human illness." Veterinary surgeons generally believe that the connection between the "Hendon cow disease" and scarlet fever, is a disproved myth. Dr. W. H. Hamer and Dr. S. Henry Jones, who furnish the main body of the report, state that—"the circumstances are highly suggestive of a special pathogenic quality of the red heifer's milk which may possibly have caused first the death of her calf, and then on the distribution of the milk in London and Surrey produced scarlet fever among consumers in those counties."

It is common knowledge that a calf may die from any one of half-a-dozen or more diseases, and it is merely imagination to suppose that this calf died from a disease of the heifers' teats, while the calves of other heifers also suffering from eruption on the teats, were unaffected.

If a disease of the cow's udder and teats is the source of scarlet fever in human beings we must have a much more scientific demonstration of the fact than this report supplies.

It was found by the investigators that scarlet fever actually existed on the farm to which the infected milk had been traced, in the person and family of the carter who daily handled the milk and assisted in milking!

The first case of scarlet fever among customers consuming milk from this farm is shown on a chart in the report to have occurred on the 9th of June, and the history of the illness in the carter's family (obtained probably from a member of that family) is given as June 11th. On this somewhat slender evidence it is concluded, as no other human source of infection could be traced, that the milk from this farm infected the customer on the 9th of June before infecting the carter's child on the 11th, and that a human source of infection being thus excluded, the milk from the diseased cows must have infected both the customers and the carter's family.

Knowing the reluctance of dairy farm servants to acknowledge the existence of infectious disease in themselves or their families, and their carelessness about a child complaining of sore throat for a few days, the probable explanation appears to be that the carter's child was ailing for some days before the 11th, but was able to keep about although infected with scarlet fever. This child may have been in direct contact with the milk by carrying a pail of it, and through the child the carter would become infected, and convey the disease to the milk with which he was in such intimate and daily contact.

The incubation period of scarlet fever is uncertain, varying from one to four days or more; but these medical gentlemen were satisfied that the carter and his family were not the originators of the infection, and transferred their suspicions to the cows.

Mr Dunbar, Veterinary Inspector to the L.C.C., was called in to examine the cows, and his brief report is given. He found blebs, pustules, scabs, and scars on the teats and udders of most of the cows. Mr. Dunbar says: "Practically every one of the milch cows at the further farm has some evidence of vesicular disease or scabby conditions." One cow "Reddy has a cough and is feverish," "fourth cow apparently has arthritis of left hip joint." Mr. Dunbar's conclusion is that the affection "had already passed the acute stage, but I could definitely state the appearances observed were absolutely distinct from those seen in a number of outbreaks of cowpox which have come under my observation." This is a most disappointing diagnosis, and one wishes that Mr. Dunbar's clinical experience had been further utilised and a positive opinion given.

Country veterinary surgeons recognise several affections of the teats and udders of cows which are not cowpox.

There is a vesicular disease of the teats and udders of cows showing blebs, pustules, scabs, and subsequent scars, which is more common than cowpox but is not cowpox, as there is no umbilication of the vesicles and no areolation. This disease is contagious but is of a very mild nature and does not affect the general health of the animals attacked or of the calves sucking the sore teats. Successive crops of vesicles appear and the disease lasts for weeks or even months in a herd.

In Law's "Veterinary Medicine" a streptococcus eruption of teats and udders of cows is described corresponding to the symptoms just detail-

ed, and this is most probably the disease found by Mr. Dunbar. It is common in heifers with first calf and may originate in accidental abrasions of the teats becoming infected with streptococci through contact with soil or litter.

Another affection of cows' teats is varicella or false cowpox which bears the same relation to vaccinia that chickenpox bears to smallpox.

Varicella is distinguished by its unilocular lesion, its absence of areola, its rapid pustulation, and drying in five or six days into a thin papery crust instead of a thick firm umbilicated scab as in cowpox. This disease is also common in England.

If scarlet fever flamed forth in human beings in the areas where streptococcus eruptions and varicella are common in cows, the connection would long ago have been obvious. The last section of the report by the pathologist of St. Bartholomew's Hospital—Dr Mervyn Gordon—seems to render entirely nugatory the contention that this cow disease was the cause of scarlet fever.

Dr. Gordon isolated from the eruption on the cows' teats one kind of micro-organism only, namely, Gram's positive diplococci. The cultures yielded a mixture of staphylococci and streptococci. Of these one was the staphylococcus aureus, and was not tested further; the other, a streptococcus, was isolated in pure culture and investigated. It is first compared with the streptococcus auginosus taken by Drs. Andrewes and Horder from the fæces of scarlet fever patients. Dr. Gordon states that the streptococcus from the cows at farms X1 and X2 was like this streptococcus in general features except that its chains were somewhat shorter and neutral red was not reduced. Furthermore, the streptococcus from cows at farms X1 and X2 failed to exhibit pathogenicity for the mouse. Here we have scientific evidence that the cow streptococci were different from those obtained from scarlatina patients in three particulars: they had shorter chains, did not reduce neutral red, and were not fatal to mice. In other words, it was not the organism of scarlet fever at all, but a different one. The second type of organism with which Dr. Gordon compared the streptococcus from the cow was that found by Dr. Savage as most frequently existing in mastitis of cows, but he was unable to demonstrate that it was or was not the same organism for lack of experimental goats.

On such evidence as this of Dr. Mervyn Gordon's one would naturally have expected from eminent medical officers a verdict of "not guilty" for the cow, instead of suspicions and aspersions upon her good name.

ABSTRACTS FROM FOREIGN JOURNALS.

Local Anæsthesia in Equine Practice.

Dupuis and Van den Eeckhout, director and professor respectively of the Veterinary School at Cureghem, Belgium, highly recommend the combination of adrenalin with cocaine or similar agents to induce local anæsthesia in the horse. The same authors called attention to the value of this method over two years ago; but though their own subsequent experience has fully confirmed the views they then expressed, the practice has gained little ground amongst Belgian veterinarians.

The authors explain the superiority of cocaine-adrenalin anæsthesia to that obtained by cocaine alone by comparing the action of the two drugs. Cocaine, injected under the skin or applied upon the dermis deprived of its epidermis, anæsthetises the neighbourhood of its point of application; and, when injected along the course of a sensory nerve, it anæthetises all the territory supplied by that nerve. But this anæthesia is very transient, never exceeding 20 to 30 minutes. Cocaine is very diffusible and easily absorbed by the vessels, which quickly take it up, so that in a very short time the concentration present in the tissues becomes too weak to maintain anæsthesia, and the nerve recovers its function.

Adrenalin is a general and local vaso-constrictor. Injected into a vein, it causes a very intense general constriction of all the vessels; which is, however, of very short duration, as the drug is rapidly destroyed in the blood. Applied upon a mucous membrane, or injected into the cellular subcutaneous tissue, it causes no general reaction, but a local vaso constriction with very marked anæmia of the tissues of the region. This local vaso-constriction is of several hours duration, as the condition is unfavourable to the absorption of the adrenalin into the system.

When cocaine and adrenalin are combined, the vaso-constriction caused by the latter considerably retards the absorption of the cocaine, and the anæsthetic effect is therefore prolonged for about three hours. Besides the advantage of a longer period of anæsthesia, this method also considerably lessens the risk of cocaine poisoning, as the cocaine, being absorbed very slowly, enters the blood and is destroyed there gradually, instead of being quickly absorbed and invading the system at once, as is the case when cocaine is used alone. Cocaine-adrenalin anæsthesia is therefore not only much more durable than that induced by cocaine alone, but also much safer.

For the last two years, the authors have regularly employed a solution comprising—cocaine hydrochlor. 25 to 30 centigrammes (approximately 3⅞ to 4½ grains), chloride of adrenalin, 5 drops of a 1 in 1,000 solution, and distilled water, 10 grammes (about ʒiiss.). They have made about 300 injections of this solution, using it for very various purpurposes—for tracheotomy and the excision of tumours, for diagnosing lameness in the extremities, and for foot operations, which have included those for keraphyllocele, pricks, and quittors.

To anæsthetise the foot, half of the above solution is injected along each plantar nerve. Care should be taken that the needle does not enter the vein, which would at once introduce the solution into the general circulation. The authors have never had this accident, and avoid it by raising the skin before inserting the needle, and afterwards

waiting a few seconds before applying the syringe. Blood will flow from the needle if it has entered the vein.

Sometimes the authors make only one insertion of the needle *behind* the flexor tendons. The needle, in that case, is first directed round the inner edge of the perforatus tendon towards the internal nerve, and half the solution is injected. The needle is then partially withdrawn, redirected round the outer edge of the tendon, and the rest of the solution is injected in the neighbourhood of the external nerve.

For other operations, such as tracheotomy and the excision of tumours, a number of punctures are made, varying of course with the extent of the field of operation.

The effects of the quantities of cocaine and adrenalin in the doses quoted above are constant. Anæsthesia is produced after 15 to 20 minutes and regularly persists for about three hours.

The after-effects are insignificant. The authors have never seen abscess-formation, or the production of either induration or hypertrophy. After injections along the plantar nerves, however, a slight inflammatory œdema, warm and tender, nearly always appears, and may extend over the whole region of the cannon. This œdema is unimportant, and disappears in a few days with or without treatment.

When two feet are to be anæsthesised simultaneously, as in neurectomy of two limbs, the authors have never seen the slightest ill-effect from injecting the dose given above into *each* limb, the animal thus receiving 60 centigrammes of cocaine. They prefer, however, to keep on the safe side by using only a single dose (containing 30 centigrammes of cocaine), and injecting one-half of this into each limb. This has always given complete anæsthesia, although only 7½ centigrammes of cocaine is applied along each plantar nerve.

The authors have also made numerous experiments upon the effect of other local anæsthetics, such as stovaine, alypin, and novocain, as substitutes for cocaine in the above solution. These experiments have been made principally with Stovaine and alypin, either of which agents, if substituted for the cocaine in the prescription in precisely the same quantities, gives exactly similar results.

The anæsthesia commences about the same time, and endures for about as long, as when cocaine is employed, and the duration of the anæsthesia thus depends, not upon the absorbability of the anæsthetic, but upon the action of adrenalin in retarding absorption by vaso-constriction.

The œdema of the limbs mentioned above appears after the use of stovaine or alypin as well as after cocaine.

Though stovaine and alypin are therefore perfectly efficient substitutes for cocaine, the authors do not see that they are in any way preferable to it. Stovaine is slightly cheaper than cocaine, while alypin is much more costly. Cocaine, moreover, can be found in every pharmacy.

The authors conclude by reiterating in unqualified terms their recommendation of these injections as inoffensive, exceedingly valuable in the diagnosis of foot lameness, and considerably facilitating operative surgery. Indeed, as regards the latter point they consider that it is now impermissible to perform painful operations, especially certain operations on the foot, such as the quittor operations, stripping the sole, etc., without previously anæsthetising the field of operation.—*Annales de Méd Vét.*

The Temperature in Quarter-Ill.

Schütt and Warringsholz, both of whom are official veterinary surgeons, have reported some observations upon the temperature of cattle suffering from quarter-ill. The classical teaching is that the disease is accompanied by high fever, the temperature only sinking towards the end of life. Friedberger and Fröhner, for instance, quote the temperature as reaching 107.6 F. The rapid course of quarter-ill renders it difficult to make any extensive observations upon the temperature during life; but nevertheless the authors, from their own experience and that of three colleagues, have collected notes of about a dozen cases. Some of these were in early stages of the disease when examined—a few hours after the first appearance of symptoms, and from 12 to 24 hours before death; others were already severely ill; and others again were examined shortly before death.

In every case the temperature was found to be between 100·4 and 103·1 F., a range which the authors regard as quite normal. They described one case in detail, the subject being a bull calf seven months old. The owner noticed the first sign of the disease (lameness of the left fore limb) about five o'clock in the morning. The animal was professionally examined nearly twelve hours later (4.30 p.m.) and was found obviously affected with quarter-ill, but still able to stand. The temperature was then 102·4 F. The temperature was afterwards taken hourly by the owner until 8.30 p.m., and, at each of the four observations, was found to be 102·7 F. The calf died during the night, and post-mortem observation revealed a typical case of quarter-ill.

The authors call attention to this question of the temperature in quarter-ill, as the prevalent idea that the disease is marked by high fever may lead to errors in diagnosis, and indeed has already done so. In one case within their knowledge, a young bovine showed a considerable but circumscribed and non-crepitating, swelling of the region of the left forearm. Palpation yielded uncertain results, from the amount of swelling present. The temperature was normal, and on the ground of this fact the idea of quarter-ill was excluded; and the case was diagnosed as one of contusion, with a possibility of fracture of the forearm. About 24 hours later the animal died of quarter-ill.

Similarly, the authors have known three cases in which, when animals were being inspected prior to slaughter, the normality of the temperature has misled the inspector; and permission to slaughter has been given, when the case was really one of quarter-ill.—*Berliner Tierärztliche Wochenschrift.*

W. R. C.

RESOLUTION—No. 3963AGRI. ON THE ANNUAL REPORT OF THE CIVIL VETERINARY DEPARTMENT OF BENGAL 1908.

Lieutenant-Colonel Raymond, F.R.C.V.S., held combined charge of the Bengal Veterinary College and the Provincial Civil Veterinary Department throughout the year. He was assisted by Mr. Harris, who joined his appointment as Superintendent, Civil Veterinary Department, Eastern Bengal and Assam, on 28th May, 1907, and by Mr. D. Quinlan, the present Superintendent of the Civil Veterinary Department, Bengal.

2. *The Bengal Veterinary College.*—The popularity of the Bengal Veterinary College has increased considerably. There were 151 students on the roll during the year, compared with 104 in the previous year, of whom 60 came from Eastern Bengal and Assam and 12 from Burma, Madras, the United Provinces and the Punjab. That the students have been able to appreciate the instruction is proved by the report of the Board of Examiners, which shows that 82, 90 and 88 per cent. of the students passed in the first, second and third years, respectively. The Institution itself has grown rapidly, and during the year the new hostel to accommodate 156 students, the post-mortem room, and quarters for the Assistant Surgeon and the Overseers were completed. Lieutenant-Colonel Raymond has been able to do much scientific work in the new bacteriological laboratory, and in addition to ordinary research he has made important investigations in connection with rabies cases and the Glanders and Farcy Act. It is unfortunate that the completion of the buildings has been retarded this year through want of funds. Lieutenant-Colonel Raymond has now organised the administration of the Glanders and Farcy Act in Calcutta. The area has been divided into six districts, each in charge of a Veterinary Inspector. No animal has been destroyed except after personal examination by Lieut.-Col. Raymond, whose administration of the Act has been most tactful.

3. *The Veterinary Infirmary, Belgachia.* — The popularity of the Infirmary has increased, and the number of cases treated was 4,132 as compared with 3,095 in 1906-07. It is satisfactory to note also that the number of out-door patients has increased nearly 100 per cent.

4. *Veterinary Hospital and Dispensaries.*—There are now 25 veterinary dispensaries in Bengal. One dispensary at Arrah was opened during the year, and dispensaries at Chapra and Bhagalpur have been completed since the end of the year. The latter, on which over Rs. 10,000 have been spent, was due to the liberality of Babu Ramani Mohan Singh. The Lieutenant-Governor would draw the attention of the Superintendent to last year's Resolution and again ask him to record more fully his opinion about the working of the several institutions during the year and the causes of their comparative success or failure. During the present year there has been a very large increase in the cases treated at Hooghly, the 24-Parganas, Nadia, Jessore, Darjeeling, Bhagalpur, Angul, Puri and Ranchi, and a large decrease in Darbhanga, Monghyr, and Hazaribagh. The causes of these fluctuations should be ascertained by the Superintendent, and in the case of the Sonthal Parganas, an explanation of the remarkable increase should be submitted to Government. The total number of patients rose during the year from 32,736 to 61,557. The number of horses treated during the year was 10,430 (which is almost the same as last year), but the number of cattle treated has increased from 18,525 to 49,458.

5. *Diseases.*—The information given of the number of deaths from contagious diseases is founded upon the reports of chaukidars, checked in a few cases only by the veterinary staff. The results at present obtained in this way are not reliable, and in the particular case of the 24-Parganas are so obviously incorrect that the Superintendent will be asked to submit a special report on them. Leaving the figures of that district out of account the number of deaths from contagious diseases was 10,557 compared with 21,025 last year. There were 259 cases of death from glanders, of which 249 were detected in Calcutta. It is observed that there has been a large decrease in the number of cattle inoculated for rinderpest from 22,613 to 5,978. The reasons for this considerable falling-off should be reported to the Lieutenant-Governor who attaches the greatest importance to this branch of the Superindendent's work. The percentage of fatal cases was only ·33.

6. *Breeding Operations.*—The Lieutenant-Governor is pleased to see that some progress has been made in the improvement of the breed of cattle, and that steps are being taken to protect the Bramhani breeding bulls in the districts. There are now three herds of cattle at Sripur, Pusa, and Kalimpong respectively, and in time it will be possible to supply good bulls to the surrounding villages.

7. *Fairs and Shows.*—There were 13 fairs and shows held during the year, and all but two were attended by officers of the Department.

8. *General.*—During the year the scheme for the reorganisation of the Civil Veterinary Department received the final sanction of the Secretary of State and the service has been made pensionable. According to this scheme there will ultimately be two veterinary assistants in every subdivision in the Province with a superior staff consisting of 30 Inspectors and 9 Deputy Superintendents. The scheme will be brought into force gradually as funds permit. The separation of the Civil Veterinary Department from the administration of the Bengal Veterinary College was sanctioned during the year and took effect from the 1st of April, 1908. Mr. D. Quinlan, who was under training with Lieut.-Colonel Raymond, has been appointed Superintendent of the Civil Veterinary Department, while Lieutenant-Colonel Raymond takes charge of the Bengal Veterinary College and the administration of the Glanders and Farcy Act in Calcutta. The first Imperial Veterinary Conference was held at Calcutta in February, 1908, when the members visited the Bengal Veterinary College.

9. The Lieutenant-Governor desires to acknowledge the uniformly excellent character of Lieut.-Colonel Raymond's work, and he endorses the opinion expressed by him of the good work done by Mr. D. Quinlan, I.C.V.D., and Mr. E. H. Brand, the Assistant Principal of the College.

By order of the Lieutenant-Governor of Bengal,
F. W. DUKE,
Offg. Chief Secy. to the Govt. of Bengal.

THE MELBOURNE UNIVERSITY VETERINARY SCHOOL AND RESEARCH INSTITUTE.

The University Veterinary School was established by an amendment to the University Acts passed this year by the present Government. The Bill was, however, framed by the late Government, and it is to Mr. Geo. Swinburne, perhaps more than to any other stateman, that Victoria owes this important addition to its educational system. The Act in question provides for the transference of the land; for the establishment of a Stock Diseases Research Institute, and a Veterinary School; and for the payment of an annual grant of £4,200 for upkeep. In addition to this, the buildings now in course of erection will cost close on £10,000, the necessary sum being granted by Government.

The cost of equipment, etc., estimated at £2,500, is provided for from the amount of the first year's grant unexpended.

The land on which the buildings are situated consists of an area of four acres, bounded on three sides by public streets, surrounded by a handsome brick wall, the whole being the very generous gift of the City Council to the University for the purpose of erecting thereon the Veterinary buildings. The main entrance faces the Flemington Road, but a students' entrance will be made to Storey Street, in order to provide easier access from the University, which is practically adjacent.

The buildings are handsome and commodious. That nearest the main entrance comprises the hospital for sick animals, operating theatre, pharmacy, surgery, lecturers' and students' rooms, office, etc. The other building situated on the terraces comprises a lecture room, capable of seating a large number of students, a museum and library, research laboratories, dissecting rooms, post-mortem room, etc., the whole enclosing a spacious quadrangle. The laboratories and dissecting rooms are provided with large windows facing the south, so that at all times they may be well lit and as cool as possible. Boxes for experimental animals are situated in close proximity, thus providing for the complete isolation of the experimental work from the hospital work.

It may be said that the establishment of this institution completes what has been the life work of Mr. W. T. Kendall, M.R.C.V.S., in Victoria. Twenty years ago he established the well-known Melbourne Veterinary College in Victoria, and in spite of public apathy and much discouragement, has conducted that institution as principal with conspicuous ability ever since, as the capable graduates who have been trained at the College bear ample testimony. Now his institution, along with himself as Lecturer on Veterinary Medicine, and his students, has become merged in the University.

The new school is under the direction of the Faculty of Veterinary Science, the Dean being Professor Gilruth, M.R.C.V.S., F.R.S.E., etc., formerly Chief Veterinarian and Pathologist to the New Zealand Government, who now occupies the chair of Veterinary Pathology, and will be Director of the Research Institute on its completion. The subjects of Chemistry, Biology, Natural Philosophy, Botany, Physiology, and Histology and Pharmacology, will be taught by the professors at the University. The more specially veterinary subjects, with their teachers, are as follows :—Veterinary Pathology, Bacteriology, Meat Inspection, etc., Prof. Gilruth ; Medicine, Obstetrics, Stable management, etc., Mr. W. T. Kendall, M.R.C.V.S. ; Surgery, Anatomy, Shoeing, etc., Mr. W. Stapley, M.D., M.R.C.V.S. ; Hygiene and Dietetics, Mr. S. S. Cameron, M.R.C.V.S. (Chief Veterinary Officer) ; Parasitology, Miss G. Sweet, D.Sc. ; Agricultural Botany, Miss I. White, D.Sc. ; Pharmacy and Materia Medica (at the College of Pharmacy), Mr. W. S. Hutchings, M.D., B.S.

Practical meat inspection is taught at the City Abattoirs, where every assistance is rendered by the director, Mr. Robertson, and his staff, and where the City Council, as a supplement to their magnificent gift of the land in Flemington Road, are fitting up two rooms for the use of the professors and students. Every detail, therefore, will be complete for the efficient and up-to-date training of veterinary surgeons.

The work of the school under the new ægis has been in full swing since the beginning of the present session. Pending the completion of the new premises, the old College is being utilised for part of the work, the remainder being done at the University. The University degree awarded at the end of the curriculum is the Bachelorship of Veterinary Science (B.V.Sc.) The period of study comprises four and a half years, and it is necessary for candidates to pass a special matriculation examination on entrance. In addition to the degree, however, the regulations provide for a Licentiate (L.V.Sc.), for which a less exacting entrance examination, and only four years course of study are required.

That the inauguration of the new school is meeting with support and approval is evidenced by the fact that Messrs. Cooper and Nephews, of Sydney and Berkhamsted, have awarded a "Cooper" Scholarship, value £25, per annum, tenable for five years ; and that gold medals have been offered for competition amongst students by the Minister for Agriculture (Hon. Geo. Graham), Mr. Geo. Swinburne, Messrs. Tye and Co. (of the Allandale Stock Farm), and Mr. Dugald Taylor (of the Truggania Stud Farmer.)—*The Farmer and Grazier.*

PRESENT-DAY ROAD REQUIREMENTS IN TOWN AND COUNTRY.

By Arthur Brown, M. Inst. C.E.

The Road Requirements in Town and Country may, I think, be classed under six different heads :

The surface must give good foothold for horses.

It must be as noiseless as possible.

It must be free from dust in summer, and free from mud in winter.

It must be of such a surface as will prevent side-slip with either motor cars or cycles.

The surface must stand the traffic of the district.

The road must be cheap as regards first cost, or maintenance, or both.

The order of importance of those requirements is somewhat difficult to give. For instance, the man who drives a horse thinks good foothold is of the greatest importance, and many people who do not drive horses will agree with him. Residents who live abutting on our main highways consider absence of noise, and freedom from dust and mud, as being of the greatest importance. Cyclists and motorists take no interest in a road being noiseless, as they ride on rubber tyres, but they do demand roads free from dust and mud, and consider a surface which does not encourage side-slip as a *sine qua non.*

Pavings in Use.

As regards the various kinds of road paving, etc., for main street and urban roads we have :—

Granite Setts.—Granite sett paving, which is a favourite type with every road engineer on account of its durability. The kind of granite depends on the position, geographically, of the town ; Nottingham, in consequence of its inland position, cannot obtain cheaply either Welsh, Scotch, or Guernsey granite, and is dependent on a supply from the Leicestershire quarries. Norway has during the past eight years been a strong competitor to the Leicestershire quarries ; the granite from the latter district is mainly hard and somewhat close grained, wears well, but naturally wears somewhat smooth and slippery ; Norway granite is more open grained and gives fairly good foothold, but it is therefore softer than Leicestershire granite. The finest granite for sett paving is Aberdeen granite ; it is hard, but it gives as good foothold as granite from Norway.

The setts are usually from 5in. to 7in. deep, and are laid on a concrete foundation 6in. to 8in. thick ; the joints are run in with pitch and tar and made quite impervious ; the cost, including concrete foundation, is about 12s. 6d. per yard super. The advantages of granite setts are that there is no paving equal to it for carrying heavy traffic ; it is free to a very great degree from dust and mud ; there is no side-slip. Its disadvantages are that it is exceedingly noisy, and where traffic is heavy and on steep grades requires sanding daily. It will stand heavy traffic, but there is one kind of traffic

which can easily punish this pavement, and that is the traction-engine weighing 18 tons, hauling three loaded trucks, each weighing 12 tons; the steel strips on the driving wheels of the traction engine snip off the edges of the setts and destroy the appearance of the paving and its durability, and by increasing the space between each sett make the paving more noisy. All this could be avoided if traction-engine owners would use wheels filled in with rims of hard wood, but these are rather more expensive to maintain than the steel-rimmed wheels. I would stop this damage by putting a tax of £100 a year on steel-shod traction engines, and £20 a a year on wooden-shod ones.

Wood paving.—Wood paving is the most popular pavement for busy thoroughfares: it is the pavement which every ratepayer desires to have in front of his own premises, and, curiously, it is the most expensive. The usual foundation of 6 in. or 8 in. thick of Portland cement concrete, with a finely screeded surface to receive the blocks, is absolutely necessary. Almost every kind of wood has been tried, but during the past ten years Australian hardwood has been largely used; it was greatly boomed by the Australian Government, and practically has almost ousted creosoted red deal.

Those who have to maintain city roads believe that creosoted red deal will come into favour again, and in fact it has. Its cost is less than that of hardwood: it costs less in sanding; and if the timber is good, sound stuff, and well creosoted, it will wear nearly as long as hard wood. The creosote preserves the life of the timber and is an antiseptic. No better instance of creosoted red dealing paving could be given than the piece in front of the Nottingham Guildhall, which has been laid for twenty-two years, has not cost £5 in repairs, and is perfectly sound and not by any means worn out. No kind of uncreosoted wood could show a result like this. The cost of creosoted wood paving is about 13s. per square yard.

Wood paving in dry weather gives the most perfect foothold of any road except ordinary dry macadam: and, on the other hand, in some conditions of weather it is a veritable skating rink when covered with a greasy slime peculiar to wood paving. When in this condition the sprinkling of sand only increases the trouble, and there is only one cure—a thorough washing, which of course has to take place at night.

In very dry weather the dust from wood paving, although not large in amount, is particularly irritating; but this is caused by the pulverised horse droppings, which are more apparent on wood than any other kind of pavement. In dry weather the whole area of the wood paving must on no account be watered, unless you require a skating rink; the channels only should be watered with a cart, having the spreader arranged specially for this purpose.

A wood paved road fulfils requirement No. 1 as to foothold, No. 4 as regards side-slip only in dry weather; No. 2 as regards freedom from noise; No. 3 as regards dust and mud to a very great extent; and as regards requirements Nos. 5 and 6 it is costly to maintain and by no means cheap.

Macadam.—The third type of road is the ordinary, dry macadam road. This can only be used for urban roads.

The absolute necessity of a good foundation for a macadam road is as great as in the two types already mentioned, but in the case of the macadam road it is usually of hard ballast, well rolled. The granite should be of the hardest and toughest description, and from 2in. to 2½in. gauge for roads of importance. The stones should be rolled and rolled until they are dovetailed together as in a mosaic pavement, and no binding material should be used until this has been effected. It should always be remembered that the less binding material you use in consolidating your road the less dust and mud you will have afterwards. Road scraping should on no account be used for binding, it has been mud and will speedily return to its original condition: fine granite only should be used for this purpose.

This road is the ideal one for foothold, for noiselessness, and for absence of side-slip. It will not carry heavy traffic, but it is cheap as regards first cost, a good road, including foundation, being made for from 2s. 6d. to 2s. 9d. per square yard: but this class of road is the one which has given rise to all the troubles since the advent of the motor car, as regards dust more particularly. Where the traffic is heavy, the process of taking off the mud and laying on the granite is almost continuous; where the ordinary traffic is light, and the motor traffic is heavy, the dust is a great nuisance.

Durax.—A paving which is just now in its early experimental stages in this country is a paving called Durax. This paving is laid on a foundation of hard ballast, or, as it is expected to take the place of the ordinary dry macadam roadway, it is suggested that it should be laid on the top of the existing macadam roads, when the levels will allow of this being done. The material is granite, about 3½in. cube. The peculiarity of the method of paving is that the cubes are not laid in straight courses at right angles to the central axis of the road, but in courses having a segment with a chord about 5ft. or 6ft.; thus, if the road is 30ft. wide, there are five or six of these segments in the width of the road. The stones or cubes are laid as close together as possible, and are well rammed with a light rammer. The noiselessness of this paving is certainly most extraordinary: it is quite inconsistent with one's ordinary ideas of a paved road. There is no doubt that the segmental shape of the courses conduces to the noiselessness in a marked degree. The road gives good foothold, is free from dust and mud, there is no side-slip, and it will stand fairly heavy urban traffic; but the cost is somewhat heavy (about 5s. 6d. per square yard, exclusive of any foundation). Taking a road at 10 yards wide, this price would equal £4,840 per mile run.

Tarmac.—The last type of road is tar macadam. There is nothing new in tar macadam: it has been laid in this city for fifty years. The first piece of tarred paving in this country was laid on the London Road about the year 1845.

The material most favoured for use in making tar macadam is ironstone slag, but I am certain that good results can be obtained by using certain kinds of granite. The advantage of using slag is that it is dry, and if the trucks in which it is delivered are sheeted down the material need only be slightly warmed before being treated.

There are a good many kinds of apparatus for mixing tar macadam; but I do not, for obvious reasons, propose to describe these. The material when warmed and coated with tar is preferably stacked for a few weeks to mature, but this is not absolutely necessary. It is laid in two coats, the lower one about 3in. to 4in. thick of material 2in. to 2½in. gauge, and the top coat 1½in. to 1½in. thick of material 1in. to 1½in. gauge. The whole is well rolled and covered with dry granite chippings.

There are limitations to use of tar macadam roads, and it is often laid down as a rule that this material should not be laid down on a gradient steeper than 1 in 18; in Nottingham there is a tar macadam road laid on a gradient 1 in 10, and heavily laden drays pass down this road with safety; they do not come up; they could not, whatever the surface was laid with.

In certain conditions of weather the foothold is not all that could be desired, but if the sanding staff is well organised this difficulty may be surmounted.

The cost of a new tar macadam road, including foundations, etc., is about 3s. 6d. per yard super.

We have not discovered any road which fulfils all the requirements laid down, and I think we never shall.

Cab Horse Lameness.

Paralysis of the Lower Jaw in Distemper.

See note p. 106, Aug. 7, on "A Curious Symptom of Distemper.".

Ostitis of the distal extremity of the Splint Bones.

To illustrate notes by Henry Taylor, F.R.C.V.S.

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UMI

Dust Prevention.

I now come to the dust nuisance and the various remedies which have been tried to alleviate it.

The ordinary method of street watering: but how little effect this has on roads on very hot days in summer, when the temperature in the sunshine rises to 140 and the humidity falls to 45 as compared with 100 (complete saturation); watering in this condition of weather arouses in the staff a feeling of hopelessness and certainly a doubt as to whether the money so spent is not absolutely wasted. I am speaking more particularly of urban macadam roads and not paved roads. How would it be possible to water the miles of county roads? It is difficult in cities where the water mains are everywhere and standposts frequent, but on the county roads there are thousands of miles where there are no water mains, and it increases the cost enormously when the water has to be carted a mile or more from the nearest pond or dyke, there is also the risk that the latter may be dried up during hot weather just when watering is most required.

Water can only be used with economy and with moderate success when standposts are placed at intervals not exceeding ¼ mile. Road watering on an urban road under these conditions costs from ¾d. to 1d. per yard super. per annum.

Various oil preparations have been tried, with only moderate success, and have given place to materials of which calcium chloride is the principal ingredient. It has been known for years, that street watering with sea water is more effective than watering with the town water supply; after the water has evaporated, the particles of sea salt remain; these are deliquescent, always taking up moisture from the air and remaining damp. Calcium chloride is a saline body, much like sodium chloride, but more deliquescent, as, if some of the calcium chloride is exposed to the air for a short time, it attracts so much moisture from the air that it rapidly becomes a liquid. Curiously, the greatest enemy of any oil process or calcium chloride mixture for laying dust is heavy rain, which washes the oil or calcium chloride from the surface of the road into the channels, so that the process of treating the surface has to be repeated.

I have found calcium chloride very effective, and its great advantage over ordinary street watering is that it ensures a road with freedom from dust for a week, although this depends a good deal upon the amount of the traffic.

The cost of treating roads with calcium chloride is about 25 per cent. less than ordinary street watering, but the comparison is hardly fair to calcium chloride for the reasons given above.

Tar painting, or spraying, of roads has been strongly urged by its champions as being the only cure for dust. The Roads Improvement Association and the Automobile Club offered prizes last year for the best method of laying dust, and very extensive trials were made on roads near London. I saw some of these trials and have given the subject very careful attention. The roads upon which the trials were made were absolutely free from dust before the trials, and there was no dust afterwards, because there was no sunshine and plenty of rain. The trials proved nothing.

I would like to see tar-painting or spraying tried in a hot, dry summer, when the system could be carefully tested. I am bound to say, however, that some surveyors speak very highly of it, and one surveyor in the South of England has given an order for the tar-treating of 150 miles of road, so that there will be opportunities of watching this process if the weather is dry and favourable.

One great drawing to tar-painting is that in winter, after frost and snow succeeded by continuous but not heavy rainfall, the road is coated with a black, slimy mud, which is very difficult to remove.

Tar-painting is expensive: from figures obtained from those having experience, the cost is from 1d. to 2d. per yard per annum. This is the opinion of the County Surveyor of Kent, who says: "If all the county roads are to be tar-painted the cost would be a million a year, and about 34 million gallons of tar would be consumed, of a value of about £280,000." What a windfall for gasworks! And how long, in view of such a demand, would tar remain at its present price?

Taking the cost at only 1d. per yard per annum, and the roads at an average of 10 yards wide, it would equal £73 per annum. I believe the average cost of the upkeep of county roads is only £60 per annum, and, therefore, the cost of maintenance of the county roads would be more than doubled if they had to be tar-painted in order to lay the dust.

Cost.

What would it cost, and who should pay for it?

I believe that treating the county roads as suggested would cost £1,000 per mile. There are about 27,500 miles of roads in England and Wales, there is, therefore, an expenditure of 27½ millions to be faced: how is that money to be found? the easiest answer is that the State must find it, and I intend to shew by what means the State could raise money for assisting road authorities.

What has brought about the trouble regarding the upkeep and maintenance of urban and country roads? The answer is, the motor car and other self-propelled vehicles. Road engineers are frequently told that they know nothing about the maintenance of roads, and that road surfaces are not brought up to everyday modern requirements; but road engineers might with equal truth say, that motor cars are quite as imperfect, and that the ingenuity of man could not devise a more efficient dust raiser than the modern motor car, with its low body, trailing leather splashboards, and excessive speed.

As a road destroyer, the motor car in some conditions of the weather is unequalled, as after slight rain, just drying, or worse still, after a sharp frost succeeding wet weather quickly and followed by a sudden thaw, a heavy motor car travelling at 30 miles an hour will make grooves 5 inches wide and ½ inch deep in an ordinary macadam road, yet some people say motor cars do not affect the roads prejudicially. We are not all motorists, and as they are primarily responsible for the present trouble on urban and country roads, is it unreasonable to ask, that either the construction of motor cars should be improved to prevent the damage they do to the roads, and worse still, the inconvenience they cause to the general public, more particularly to the owners of and residents in houses abutting on those roads, or that the owners of the cars should at any rate help to pay for converting the roads to their use? Surely people who can afford to pay from £800 to £2,000 for a motor car, and from £200 to £600 a year for its upkeep, can afford to pay a tax for their use of the roads, by which they absolutely take away all the pleasure which the ordinary pedestrian or driver of a horse used to find on the public highway.

I believe that motor cars, motor vehicles, traction engines, tractors, and in fact every self-propelled vehicle which is firstly a public danger, and which secondly affects the public highways in such an extraordinary degree, should pay something.

There are at least 60,000 or 70,000 self-propelled vehicles in the country, and a tax of £20 per annum would realise from £1,200,000 to £1,400,000; this should be collected by the State and handed over to the various authorities in proportion to their mileage and requirements.—*Journal of Royal Sanitary Institute.*

DISEASES OF ANIMALS ACTS 1894 TO 1903, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Counties Affected	Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh. tered *
GT. BRITAIN. Week ended Nov. 27	26	29			12	24	Essex 2	27	36	240
Corresponding week in 1908 ...	17	21			11	28		11	42	593
Corresponding week in 1907 ...	19	28			15	22	Kent 7	31	30	161
Corresponding week in 1906 ...	28	31			18	33		31	33	231
							London 14			
Total for 48 weeks, 1909	1201	1556			514	1710	Lanark 1	561	1546	13591
Corresponding period in 1908 ...	1013	1315	3	112	741	2315		732	1935	12704
Corresponding period in 1907 ...	988	1327			794	1795		540	2229	10684
Corresponding period in 1906 ...	861	1214			1012	1915		425	1128	6517

Board of Agriculture and Fisheries, Nov. 30, 1909.

								Parasitic Mange		
IRELAND. Week ended Nov. 20	...	...	...	...	...	...	...	13	1	1
Corresponding Week in 1908 ...	...	...	...	...	...	...	...	8	1	5
Corresponding Week in 1907 ...	...	...	...	...	...	...	...	8	2	18
Corresponding Week in 1906 ...	1	1	...	...	...	...	...	11	3	10
Total for 47 weeks, 1909	8	8	...	...	...	...	70	362	87	1562
Corresponding period in 1908 ...	7	10	...	...	...	...	36	325	155	3548
Corresponding period in 1907 ...	3	5	...	...	5	10	72	234	143	2581
Corresponding period in 1906 ...	4	8	...	...	8	16	78	212	91	971

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Nov. 24, 1909.

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

Anthrax in Ho derness—Farmers' Club Vice-President Fined.

At Sproatley Petty Sessions on Wednesday, November 24th, Mr. William England, farmer, Coniston, and a vice-president of the Holderness Farmers' Club, was summoned for removing the carcase of a bullock suspected of having died in anthrax, from premises at Coniston, on November 3rd. The magistrates on the Bench were Messrs. B. Pickering (chairman), P. B. Reckitt, and P. Chapman.

Superintendent Crisp said the information was laid under article 7, paragraph 2, of the Anthrax Order of 1899, which read as follows :—

"A carcase of a diseased or suspected animal shall not be buried or destroyed otherwise than by the local authority, or be removed from the farm or premises upon which the animal died or was slaughtered, except for the purpose of being buried or destroyed by the local authority." That is the charge against Mr. England. He was charged with removing a suspected carcase. On the 2nd of November a bullock belonging to Mr. England was found dead in one of his straw yards. Mr. England, of course, could not account for the death, and he had the carcase examined by Mr. H. E. Richard on the following morning, and as a result of that examination he reported the matter to Inspector Pottage at Sproatley. That was in accordance with the Order, and the inspector gave certain instructions about the animal being fenced round and disinfected, and he then reported the matter to the County Veterinary Inspector. In company with the Veterinary Inspector, Inspector Pottage visited the premises about 5.30 the same day, when he found that the carcase had been removed. It had been removed across the highway, and along the highway on to some other land, where (he supposed) Mr. England thought it would be more convenient for destruction. The prosecution did not suggest that the thing had been done wilfully ; it was more an error of judgment ; but they felt compelled to bring these proceedings.

The Magistrates' Clerk (to defendant) : Do you admit the facts ?

Mr. England : Yes, I don't deny them.

Inspector Pottage stated that on Wednesday, the 3rd inst., about 10.30 a.m., he received information that a bullock had died from supposed anthrax on the farm premises of Mr. England at Coniston. He gave instructions for the isolation and disinfection of the carcase, and about 5.30 the same evening he visited Mr. England's premises at Coniston, in company with Mr. Hicks, the Veterinary Inspector for the East Riding. He then found that the carcase had been removed from the premises on which the animal had died. Along the highway for something over 100 yards, through a grass field over 100 yards, and into a ploughed field. He saw Mr. England the following day in company with Sergeant Mitchell, and in reply to witness's questions Mr. England replied that he had got a veterinary surgeon to examine the dead bullock, and that vet. said it was a suspicious case of anthrax, and that he (Mr. England) had given instructions for the carcase to be removed.

Superintendent Crisp : Some disinfection by Mr. England had taken place, blood that had escaped from the carcase having been disinfected with carbolic. Consequently, after the removal, Mr. England had done what he could. Mr. England quite admitted the responsibility.

Mr. England : His statement is quite correct. I did what I thought for the best. It appears that I was breaking the regulations, but I was not aware at the time.

Superintendent Crisp produced the certificate of the veterinary inspector, showing that the case was one of anthrax; also a copy of the leaflet issued by the Board of Agriculture respecting the disease.

The Chairman: Mr. England will be fined £5 and costs, and be more careful in the future.

VETERINARY SURGEON SUMMONED.

Arising out of the same outbreak, Henry Edward Richardson, veterinary surgeon, Hedon, was summoned for unlawfully cutting the skin of a bullock suspected of having died from anthrax, so as to cause an effusion of blood.

Superintendent Crisp said the information in this case was laid under Article 7, paragraph 3, of the Anthrax Order of 1899.

The Magistrates' Clerk asked what was the proper order of procedure in such outbreaks, and Superintendent Crisp replied that when there was a case of suspicion it was reported at once to the local inspector. The animal was not to be touched until the County Veterinary Inspector came and made an inspection, upon completion of which he declared whether it was a case of anthrax or not. It was the general custom, when a suspicious case came under the notice of a farmer, to report the matter to the local constable, through whom word was sent to his superintendent or inspector, who gave instructions what to do until the arrival of the veterinary inspector, who was summoned by telegram.

Frank Blake, beastman in the employ of Mr. England, Coniston, stated that on Nov. 2 he found a bullock dead in the foldyard about 7.30 p.m. He reported the matter to Mr. England the same night. Mr. England gave him instructions to pull the beast out of the foldyard from amongst other beasts. On the following morning Mr. Richardson, the defendant, came to examine the carcase. The examination of this witness by Supt. Crisp proceeded as follows:—

What did Mr. Richardson do when he examined this beast?—I was not against Mr. Richardson, sir.

Where were you?—In the stackyard.

Then how do you know he examined the beast?—I expect he did.

I don't want you to expect. You can only say what you saw. Where had you the beast?—Let out of the foldyard.

And how far away were you from the beast?—When Mr. Richardson was there, about 50 yards.

You were no nearer than that?—No.

Then you don't know as a matter of fact whether Mr. Richardson examined the carcase or not?—No, sir; I know Mr. Richardson was on the place.

Did you notice anything different about that carcase after Mr. Richardson had gone from what there was before he came?—The difference I noticed was some blood on the right ear.

Now where did the blood come from?—Well, I cannot tell, without it came from the ear.

Was there any cut about the ear?—I didn't notice a cut.

You are on your oath—I don't wan't you to tell a lie—will you swear there was or was not a cut?—I could not say.

Could you account for that blood in any other way than the ear having been cut?—I could not.

If anybody else but Mr. Richardson had touched the carcase you would have known?

Mr. England, the defendant in the previous case, here interposed: Excuse me, it was impossible to have seen this. There were two ranges of buildings between where he was and the place where the carcase lay.

Mr. Laverack, solicitor (representing Mr. Richardson): I am not interfering, but this is the superintendent's own witness.

The Chairman (to the Superintendent): It is your own witness. Be careful not to put words into his mouth.

Superintendent Crisp: You disinfected the blood that had escaped from this carcase, with a solution of carbolic acid; and did all you could to destroy the chance of infection?—Yes, sir, all that was possible.

Superintendent Crisp: Did you make a statement to Inspector Pottage about this?—Yes, sir.

And did you sign that statement?—Yes.

Was it read out to you before you signed it?—Yes, sir.

Would you remember again what you said?—Well, I think I should.

You say, "On Wednesday morning the veterinary came at 8.30 a.m., and cut the carcase on the ear."—Well, I could not say that because—

But he did read it out to you before you signed it?—Yes, sir.

Mr. Laverack: He does not say he saw it.

Superintendent Crisp: I am speaking now of the statement he made to the Inspector. I am wanting to show we are not acting without something to act upon.

Witness: I overlooked that.

Supt. Crisp: Very likely.

Inspector Pottage having given evidence, Mr. Laverack argued that there was no case to answer.

The Chairman, after a consultation: We agree that the case is not proved.

Superintendent Crisp asked the indulgence of the Bench whilst he stated that they could only act on the original statement made by the man Blake, and signed by him in Inspector Pottage's book. If Blake had made a mistake, they had been led wrong.

Mr. Laverack asked the Bench to allow the defendant Richardson his costs.

The Chairman: We cannot allow costs.—*Daily Mail* (Grimsby).

Cats and Diphtheria—How Infection is Carried.

Rev. F. F. Buckingham presided on Friday, Nov. 26th, at a meeting of St. Thomas Rural District Council, when the Medical Officer (Mr. L. P. Black) reported on cases of diphtheria at Shillingford, said the outbreak was confined to one house. He was informed that several cats in the neighbourhood had been ill, and some had died. As it was known that cats were liable to the disease he obtained a corpse of one and dissected it, and subsequently took two specimens from the throat and forwarded them to the recently started County Bacteriological Laboratory. Both specimens were found to contain the bacillus of diphtheria. A house to house visitation was made in the district in search of ailing cats, and the inhabitants were advised to destroy any cats which appeared sick. In only two houses were sick cats discovered, and these were from the same litter. They had all been destroyed, and the evidence went to show that the cats were infected by the original human case, and not that the animals caused the disease in the human beings. The symptoms in the cats were running at the eyes, wasting, diarrhœa, and muscular weakness.

Rev. S. H. Atkins said two children had died in one family from diphtheria, and the father was now in the Sanatorium suffering from the same disease. He was sure that the sympathy of all present would go out to the parents in the sad loss of their children. He had had some cats destroyed, and he thought the important point for them to consider was whether the origin of the diphtheria came from the cats or not. The first case which happened, about three weeks ago, was an infant. The child and its mother had not been out of the house

for three weeks at the time, and therefore could not come in contact with any cats, and they had not any cats themselves. The nearest cats were about three hundred yards away, and the child had been fed on nothing but the breast and patent foods. He thought the sanitary inspector had examined the premises carefully, and had ascertained no cause of the outbreak up to the present. It was his duty to call their attention to what he thought was the cause. That was in connection with the sanatorium. He might be wrong, but it was their duty to look carefully into the matter. It was possible that diphtheria had come from the sanatorium. A little girl in the same family had been to the sanatorium for scarlatina, and was brought back to the house. The first thing she did was to nurse the baby. She had been brought back by the diphtheria nurse—the nurse who was told off to deal with diphtheria cases in the sanatorium. About ten days after the return of the girl the baby was laid up with the disease. It seemed to him that there was a connection in those things. He was informed that it was quite possible for anyone to carry the bacilli of the disease. It was possible for the child to have communicated it to be baby. He remembered many years ago a case of diphtheria being taken to the hospital in a cab, and later three or four persons who rode in the cab acquired the disease, and they died. He should like to ask whether the conveyance for patients was thoroughly disinfected before the convalescent cases were conveyed. He thought the girl must have been the bearer of the disease, and he would propose that something be done in the way of the medical officer consulting with the authorities of the sanatorium as to whether that was the cause, and report at the next meeting.

The Medical Officer said Mr. Atkins had made out a case which necessitated inquiry, and it was more than likely that the cab to convey the patients should be disinfected. He thought that district was large enough to have hired separate ambulances, one for scarlet fever and one for diphtheria.

The Sanitary Inspector (Mr. Quick) said the responsibility for disinfection rested with the Exeter authorities. They were responsible for everything in connection with the removal of cases.

The Chairman said they were obliged to Dr. Black and Mr. Atkins for the manner in which they had brought the matter forward. He was sure the sympathy of the Council would be extended to the relatives of the children. It was a terrible thing to think that the means they were using to check the disease was not checking it, but it was spreading. They had a bill of £194 from the sanatorium, and he thought that seemed to be money uselessly spent.

Rev. C. G. Browne suggested that it would be better to have a sanatorium of their own, so that they would have thorough control over it.

It was decided that Dr. Black should report on the investigations later.—*Western Morning News.*

Uniformity in Meat Inspection—The Scottish Chamber of Agric lture.

A deputation from the Association of Veterinary Officers of Health, consisting of Messrs. Robb, Hamilton, McIntyre and Trotter, met on the 25th curt. the Directors of the Scottish Chamber of Agriculture in the Merchants Hall, George Square, Glasgow. Mr. Trotter, on behalf of the deputation, spoke to the lack of uniformity in the method and standard of meat inspection which obtains throughout the country, and quoted excerpts from different official documents to show that the authorities were fully cognisant of this state of matters. It was pointed out that in other countries—and Denmark was quoted as an example—a fairly uniform method and standard had been inaugurated, and further that in these countries a standard had been issued dealing not only with tuberculosis but other conditions rendering meat unfit for food. Veterinary surgeons had also been entrusted with the work of supervising the operations of the district inspectors.

In this country no attempt had been made to standardize what is and what is not fit for human food with the exception of tuberculosis, but even there the standard was incomplete and required revision. Mr. Trotter submitted a resolution which had been unanimously adopted by the Association at their meeting held in the City Chambers, Glasgow, on the 5th curt.

Mr. Robb, in returning thanks to the Directors for their courtesy in receiving the deputation, impressed upon them the importance of having a veterinary surgeon appointed to the staff of the Local Government Board.

The Chairman (the Rev. Dr. Gillespie), in reply, assured the deputation that the directors of the Scottish Chamber of Agriculture sympathised with the objects of the movement and that they would further these objects as far as possible.

Milk Warranty—A Schoolmaster's Action.

At Liverpool before Mr. Justice Bray, an action was concluded in which Mr. George Field, headmaster of Woodlands School, Deganwy, North Wales, sued Mrs. Margaret Thomas and Mr. John William Hughes, as executors of the late Emmanuel Jones, of Marl Farm, for breach of warranty in connection with the supply of milk to the plaintiff's school. The defendants denied the existence of a warranty.

The plaintiff alleged that the housekeeper of the late Mr. Jones returned from a hospital to the farm on March 16 last after suffering from typhoid. Subsequently a pupil at the school, then the plaintiff himself, his daughter, and his wife were attacked with typhoid, and Mrs. Field died. It was alleged that the milk from Marl Farm was contaminated with typhoid germs.

It was stated in evidence that at a Llandudno hydropathic establishment, an hotel, and several houses, all of which were supplied with milk from Marl Farm, cases of typhoid occurred, and that Emmanuel Jones and a boy employed at the farm succumbed to the disease. The plaintiff's school had had to be closed for the summer term, and he estimated his loss, together with expenses of doctors and nurses, at £664.

In reply to a suggestion that the typhoid was caused at the school through defective drainage, Sir James Barr stated that the old idea that typhoid arose from drains had been exploded long ago, and experiments showed that typhoid germs did not live more than two days in sewer air.

The defence was that the outbreak at Woodlands was attributable to cases which had previously occurred at Llandudno Junction. In support of this theory Dr. Fullerton stated that the characteristics in the outbreak at Woodlands and at the hydro at Llandudno were all against the milk hypothesis. He linked together outbreaks at the school and at Llandudno Junction as one epidemic, and believed that the cause was the condition of the foreshore of the river Conway, near Llandudno Junction.

The Judge, having stated that there was no doubt a warranty by Mr. Emmanuel Jones that the milk he supplied was reasonably fit for consumption, put a series of questions to the jury. They found that either plaintiff, his daughter, or a pupil named Wood had contracted typhoid owing to milk from Marl Farm having become infected with typhoid germs, and fixed the pecuniary damage which the plaintiff had sustained at £500.

His Lordship refused to grant a stay of execution —*The Times.*

Doing without Horses.

Alleged defects in a "universal motor" has been the subject of litigation in the King's Bench Division, London. The action was at the instance of Mr. James Chapman Anderson, a retired Indian Judge, of Aiker head, Blairgowrie, Perthshire, against Messrs. H. P. Saunderson and Co., Limited, of Bedford, to recover damages for alleged breach of contract to supply him with what was described as a "universal motor."

The defendants denied that the sale of the motor was subject to conditions, or that there had been any breach of contract or warranty on their part, and they counterclaimed for the balance due to them on the supply of the motor.

In opening the plaintiff's case, Mr. Lewis Thomas, K.C. (with whom was Mr. Robinson), said his client desired to cultivate his land with power instead of with horses In 1907 he received from the defendants a circular calling attention to their "universal motors." There was also a catalogue enclosed, and it was stated in it that the defendants' 30h.p. universal motor would work various agricultural machines now worked by horses, as well as drive all kinds of machines, and, further, that it could be adapted to all farm operations and road haulage. The plaintiff required the motor to drive a threshing machine and a circular saw, to work and haul agricultural implements, and to haul road waggons, as well as drive a machine for generating electricity. Relying upon the statement in the circular, the plaintiff, through his agents, gave an order for a universal motor at a cost of £370. The plaintiff's idea was that the motor should plough the land and haul his fruit waggons to Blairgowrie Station, three miles distant. Counsel said his client's case was that the defendants accepted the order for this motor knowing the purposes for which it was required, and on the terms that it could perform all that was required of it. It was pointed out to the defendants that the ploughing the motor would have to do would not be on flat land, and their reply was that it made no difference, and that it would pull a three furrow plough. The motor was duly delivered, and the plaintiff now said that the motor was not suitable for the purposes for which he required it; that it could not be worked with common petroleum oil, and was not reasonably fit for the purposes for which he required it, and for which it was guaranteed.

Mr. Black, the plaintiff's agent, in the course of his evidence in support of counsel's statement, said Mr. Anderson was never informed that he would have to buy a particular plough for the engine. Another witness, Mr. Douglas, consulting engineer, Dundee, said there was considerable trouble with the ignition of the engine, and it ran very badly. They tried petroleum, and then it refused to do any work.

Evidence of a corroborative nature was given by Mr. William K. Bell, a practical engineer, lately with Messrs, Gourlay Brothers, Dundee.

The hearing of the case was resumed on Saturday, November 20th, when additional evidence was given in support of the plaintiff's case.

His Lordship said there was a case to meet and evidence to go to the jury as to whether the motor would run on petrol or paraffin.

When the Court resumed on Tuesday, Mr. Norman Craig, K.C., with whom was Mr. Schiller, opened the case for the defence. He asserted that the truth of the case was that the plaintiff had purchased this £370 30 h.p. machine for his work, found it too expensive for his requirements, and wanted to throw it back on the hands of the defendants.

In the course of the evidence Mr. H. P. Saunderson, managing director for the defendants said his firm had sold the Universal motor, as supplied to the plaintiff, in all parts of the world.

His Lordship: Except in Scotland. (Laughter).

Mr. Saunderson said the motor was tested on farm work before being sent to the plaintiff, and worked perfectly satisfactorily drawing a three-furrow plough. It would work well on paraffin.

His Lordship remarked that these motors had been sold in England, but in this case it was taken up to Scotland. It was a question for the jury to bear in mind that this machine was taken to a country where the inhabitants did not try to walk about in trousers. (Loud laughter).

After further evidence the jury returned a verdict for the plaintiff, and assessed the damages at £290. They found that the machine did not come up to the guarantee and that it was a condition that the plaintiff should be entitled to return it. Stay of execution was refused. —*The Scottish Farmer.*

Rats:—Experiments with Poison.

Having completed a two months investigation into the effect of various kinds of "rat virus," or poisons, I may supplement what I wrote in *The Scotsman* of April 9th by a statement of facts. I may say, at the outset, that the facts generally bear out the experiences of Mr. W. Steuart Menzies, as recorded in *The Scotsman* of the 11th inst., and my conclusion is that no virus has yet been compounded that can be *safely* and *effectually* used for the extermination of rats. Experimentalists, however, are (probably) working on the right lines, and any measures that may materially diminish a most destructive and perilous infestation is deserving of the warmest encouragement from the Board of Agriculture and the Press. To what extent rats destroy (directly and indirectly) human food it is impossible to say, and the problem of rats as fatal or very injurious disease germ spreaders must be left for solution to learned bacteriological experts. One calculation is that these vermin are responsible for a loss of £15,000,000 per annum, an enormous sum, the precise exactitude of which it is quite impossible to verify or refute. Even our ordinary agricultural statistics are more or less misleading, and I am not aware that the Board has ever devised any scheme for (even approximately) tabulating the losses by rat infestation. Nevertheless, as a wholly haphazard guess, the £15,000,000 may stand, as not unfairly representing the losses sustained by farmers, game preservers, and all sorts of merchants, etc., in country towns and the larger centres of industry. My experiments were carried out, first, with the "Danysz Virus," and afterwards (in the same places) with the "Liverpool Virus," the material in both instances being supplied by a West Riding of Yorkshire chemist, and the printed instructions as to the methods of using the stuff were carefully carried out. At the conclusion of the experiments I issued a circular requesting information on the following points, besides personally interviewing all but one, whose answers, for special reasons, are printed below:—

1. Were you troubled with rats before?
2. If so, what methods of extermination have you tried?
3. With what results?
4. How has "Liverpool Virus" operated?
5. What is the state of affairs now?

I furnished the poison to the following gentlemen:—(1) A large dairy shorthorn and sheep-breeding farmer, also poultry-keeper, whose premises and land (his own) had been for years infested by rats. (2) A farmer, and extensive professional sheep dipper. (3) A very large poultry farmer similarly affected. (4) Another large poultry farmer (farming his own land). (5) A shopkeeper in a town of 2000 inhabitants, whose premises and living apartments had been for years badly infested by rats. (6) A farmer from whom I have been unable

to obtain any definite results. No. 1 found the "Danysz Virus" effective in driving away rats to a considerable extent—where they went to, or what became of them, he could not say; found no dead rats about the premises. No. 2 had been pestered by "any quantity" of rats for sixteen years—the tenure of his present holding; had tried phosphorus, arsenic, ground glass, traps, Pasteur virus, and the material I supplied; result, "practically *nil*." No. 3 I was unable to interview, as his large poultry farm is situated in North Lancashire, a considerable distance from my home. I append his answers as of an exceptional value, as follows:—

1. We were troubled with rats before.
2. We have tried phosphorus and other poisons.
3. With varying results: the strychnine has been the most effective, but the rats died in the buildings, and gave off an offensive smell.
4. We have only seen one rat affected by your virus. My son saw it in the stable, but did not kill it, so as to give it a chance to smittle others.
5. We have still lots of rats, being close to the river Roeburn. It is wellnigh impossible to get rid of them.

No. 4 (using "Danysz Virus" only) has noted a reduction in number of rats. No. 5 has noticed several rats looking sickly, and caught one in a trap by the tail, a very emaciated looking brute when taken out dead; "not so many rats about, but still too may." Of course, if farmers and others whose premises are infested with rats keep on laying down expensive virus stuffs they may kill off the rats—or drive them away! But is the game worth the candle, especially in general rat-infested areas? It is quite clear that the poisons sicken the rats, reduce their vitality, and, presumably, the end is death. But how? Sick rats notoriously slink into lurking places, die, and putrefy. The case case mentioned by Mr. W. Steuart Mackenzie is quite a common experience, and a virus-sickened rat carcase in a state of putrefaction must be at least as harmful as a rat carcase of the ordinary kind. When rats mysteriously disappear from "poison areas," may that not be an ordinary case of desirable migration (on the part of the rats) to more eligible meat quarters? If, in such cases, the rats were to follow the example of the Norwegian Myodes Lemmus (another rodent pest), and "go west," steadily westward, and finish the migration by plunging into the sea, the movement would be of some benefit, but to relieve farmer A. by patronising farmer B. a few miles off does not strike me as contributory to a permanent settlement of the "rat problem." Rats are notoriously cunning, resourceful, and have carried the principle of gregarious co-operation to a very extraordinary extent, and man seems almost helpless to destroy or minimise the evils of such tactics. But man has an effective remedy in his own hands. In a former communication on the subject to *The Scotsman*, Mr. Menzies said:—

"To talk of keeping down rats by means of dogs and ferrets is like trying to keep down rabbits by shooting only, the net result being *nil*."

In *The Scotsman* of April 9th I was permitted to deal with this problem *à propos* of Mr. Menzies' letter, and crave space for reproducing one paragraph, as follows:

"All that can be said of the plan is, that it is good sport, and I cordially approve of rat-pit contests in order to train terriers as prompt and eager 'ratters.' Rats, if they once get a lodgment in a town where food is abundant, even in widely separated 'meat shops,' are very difficult to clear out, for the simple reason that it is almost impossible to get at them. It is very different in the country, and I see no reason why any farmer should have a rat about his premises or a vole in his fields. The Commission which 'sat' on the terrible vole plague on the Borders in 1891-2 proved conclusively that it was entirely due to the persistent destruction of owls; all kinds of owls and hawks, especially kestrels. The common barn owl is easily kept about a farmhouse, and if not molested will account for many rats, mice, voles, and such like pestilent 'small deer.' Some years ago I lived in an old Westmorland manor house, which formed part of a large farm steading (not mine). The premises were infested with rats. Among my live *lares et penates* were a pair of barn owls I got from the west, and they were very tame and at perfect liberty to go where they pleased, sleeping during the day in the subterranean wine cellar (there being abundance of space). In less than six months there was not a rat about the place, and the birds had to range far and wide for rats, voles, and mice."

In *The Scotsman* of the 11th, a writer complains of almost a plague of voles on his lands. The locality is not mentioned, but I venture to say that wherever voles abound the insensate slaughter of owls and hawks has been rife.

G. W. M.

REVIEW.

THE ARK.—A journal devoted to the interests of Cattle, Dogs, Poultry, and Farming. Edited by JAMES GREGG, V.S. Published by Wm. Brown and Sons, 30 Chichester Street, Belfast. (Subscription 1/6 per annum). No. 1, December, 1909.

This is the first number of a lay journal upon agriculture and the breeding and rearing of animals, written especially for residents in Ulster, and appealing to town and country readers alike. Catering for the amateur fancier as well as the more serious follower of the subjects in question, it is naturally popular and elementary in character, and light in style. The present number is chiefly made up of some short descriptive and educational articles, much chatty reference to agriculture and breeding in general and to prominent local owners and successful animals in their possession, and, finally, a considerable admixture of humorous sketches aud anecdotes. In addition—as might have been expected from so active a supporter of veterinary rights—the editor has many references to the profession and its friends and enemies, of which we quote two:—

"The minor members connected with the Public Health Committee of Belfast would like to make "hewers of wood and drawers of water" out of the members of the Veterinary Profession, and with this object in view, and following the advice of their man of figures, they demanded an interview the other day with the Local Government Board. The latter refused, with thanks. Our friends missed the day's outing. The city missed the bill. What a pity!"

* * * *

"But they are not to be stopped in their revenge by one closed door. They are making arrangements to have a trot to London—to protest against Veterinarys getting 2/6 for reporting a tuberculous udder. The expenses of the deputation, if invested, would pay all the half-crowns asked for in the city. What poor, small creatures to set themselves up as guardians of the public health! However, Veterinarians have as their champion the leaders of the medical profession, and when such men as Sir Chas. Cameron, Prof. Sinclair, Sir John Byers, Prof. Symmers, and, in fact, all scientific medical men stand up for Veterinary Science in public health, vets. have not much to fear."

About a dozen photographs figure in this number. On the front page is one of the Countess of Aberdeen with four of her dogs; others are of less widely known Irish breeders and owners of animals; and others, again, are of various prize-winning animals, chiefly dogs.

W. R. C.

Toxic Action of Chloroform.

A very elaborate series of animal experiments into the Toxic Action of Chloroform upon the various organs of the body, but especially the liver, is reported by Drs. Whipple and Sperry in the *Johns Hopkins Hospital Bulletin*. From their summary of conclusions the following *dicta* are selected. Chloroform anæsthesia for a period of an hour or upwards always causes some central liver necrosis, both in man and animals. Animals vary widely in susceptibility to this drug, and young animals are more susceptible than adults. Chloroform æsthesia for as little as 35 minutes has been followed in man by delayed chloroform poisoning with almost complete liver necrosis. The essential pathological change in both dogs and man is extensive necrosis and fatty degeneration of the liver, and there may also be ecchymoses and hæmorrhages into the peritoneum or upper intestinal tract. Pregnancy is no protection against chloroform toxæmia. The necrosis begins centrally in the lobule, and is uninfluenced by the blood supply; it becomes visible to the microscope only some six to ten hours after anæsthesia. Repair takes place rapidly, and the normal appearances of the cells are regained in two to three weeks; it is not followed by cirrhosis, and it goes on just the same when arterial blood is excluded from the liver.

Veterinarians as Meat Inspectors.

At the quarterly meeting of the Midland Counties Veterinary Medical Association held in Birmingham on 18th inst., Mr. J. Malcolm, in opening a discussion upon the proposed establishment of a Veterinary Diploma of Public Health in connection with the Birmingham University, said he had had an interview with Professor Leith, at whose suggestion the question was raised. The idea was to hold a series of post-graduate classes in such subjects as meat inspection, bacteriology, analytical chemistry, etc., much on the lines of D. P. H. classes for medical men. In answer to questions, Mr. Malcolm said if a course were introduced it would probably extend over five months and occupy about two days a week. He pointed out that the possession of such a diploma would be useful for any practitioner who might apply for an inspectorship under a local authority. An interesting discussion followed. Eventually, it was resolved that Mr. Malcolm communicate with Prof. Leith and ascertain as far as possible the scope of the preparation for the proposed diploma, the time it would occupy, and the amount of the attendant fees.

Faggots, Horseshoes, and Nails.—City of London Quit Rents.

A quaint custom was observed in the Law Courts, when the City Secondary, on behalf of the Sheriffs of the City of London, attended before the King's Remembrancer (Master Mellor) to "pay the quit rents of two faggots and horseshoes and nails." The custom dates back to the time when one Walter le Brun, a farrier, held a plot of land in the parish of St. Clement Danes, a stipulation of his tenure being that he should annually present the King with six horshoes and sixty-one nails, For many decades now the King's Remembrancer has represented the reigning monarch, and he did so on this occasion.

The Strand forge was demolished in the reign of Richard II, and all traces of certain lands known as the Moors, in Shropshire, "upon which two faggots severed by a sharp hatchet and afterwards by a blunt instrument, had to be presented," have also disappeared.

It did not detract from the interest in the occasion to know that the horseshoes were the identical ones that had been presented for upwards of 500 years. In accordance with custom, the City Secondary chopped two small faggots, first with a sharp bill-hook, and then with a blunt hatchet. The instruments were presented to Lady Truscott.—*Westminster Gazette.*

OBITUARY.

HARRY SPURGIN, M.R.C.V.S., Southampton.
Graduated, Lond: April, 1888.

Mr Spurgin died on Nov. 27, from broncho-pneumonia. His age was 49 years.

The Late Mr. A. Wheatley.

A well known and highly esteemed figure in the sporting world has been removed by the death of Mr. Albert Wheatley, of Downs, 11 Bath Road, Reading, which occurred at ten o'clock on Thursday evening, Nov. 25. For several week past the deceased had been ill, but three weeks ago he was at business for three or four days. Since then, however, he had been confined to his bed, and succumbed to pneumonia and other internal trouble. Mr. Wheatley, who was 56 years of age, was a native of Reading, and formerly was in partnership with his father in the business of veterinary surgeons. In 1876 Mr. Wheatley became a Member of the Royal College of Veterinary Surgeons, and in 1885 was made a Fellow of the same College. On the death of his father nearly thirty years ago he took over the business at Reading, which he continued to conduct until his last illness. Some time ago Mr. Wheatley was hurt in a motor smash.

In his early days the late Mr. Wheatley was an athlete, and was a member of the old Reading Football Club. From that time forward he evinced a lively and practical interest in all forms of sport, and was a staunch supporter of a good many football, cricket, and angling clubs. Formerly Mr. Wheatley was also a follower of the South Berks and Carth Hounds, and he subscribed to the South Berks Hounds, the Berks and Bucks Farmers' Staghounds and the Peppard Harriers. At One time Mr. Wheatley rode in point-to-point and other races, and he also owned "Newtown," a famous hunter. His services were always in great demand as a judge at horse shows all over the country. In connection with the Royal Counties Agricultural Show at Reading this year Mr. Wheatley was honorary consulting veterinary surgeon, and also a member of the Council. In addition he was veterinary surgeon to the Hunters' Improvement Society and the Polo Pony Society. He took a great interest in the promotion of shoeing competitions, and was a pioneer in the promotion of these valuable contests.

As a mark of respect, the flag at the Wellington Club was flown at half mast, Mr. Wheatley being a member of the club.

The deceased was a widower, his wife having predeceased him by about three years. He leaves no family.—*The Berkshire Chronicle.*

CORRESPONDENCE.

IODINE IN ASEPTIC OPERATION.

Sir,

I saw in *The Veterinary Record* some little time ago a suggestion as to use of Tincture of Iodine, with no shaving or washing of skin in aseptic operations. From my trials of this method I have had excellent results. The only trouble is in the time occupied to cut the hair short, especially in cats.

To quote two cases: operation on Pan bitch—ovaro-hysterectomy—bandaged over well, and sent home while yet not recovered from anæsthetic. On eighth day all perfectly dry, and silkworm gut suture hard to find.

A similar operation in kitten which looked at first unfavourable. The kitten was very fat, and the operation occupied a long time, and the patient tried to vomit. This is the fifth day and all is perfectly dry.

I have never seen Barium sulphide recommended in operations, but where speed is necessary this drug (the *impure* form) blended with water to a *very* thin paste may be applied by means of a brush or stick, wiped off with wet sponge in three minutes, and the skin will be left clean.—I am, sir, yours faithfully,

W. H. Flook.

UNQUALIFIED ASSISTANTS.

Sir,

There are many like "Ex-qualified" and "Decadence" who feel indignant that many members of our profession have so little honour or *esprit de corps* as to employ unqualified men filling the *rôle* of veterinary surgeons. The mere fact or disadvantage of an unqualified man being unable to sign a professional document does not bar his employment by many practitioners. There are always means and ways.

When a man has passed through one of our veterinary schools, bearing the incidental expenses involved in so doing, is confronted by the prospect of an unqualified man standing on equal terms or chances for employment as himself from his professional brethren, he naturally feels indignant; he feels that it is time the Council that governs his profession, and that demands of him the fulfilment of certain regulations before granting him his diploma, looked after his interests a little more in this respect by bringing those offenders of professional etiquette to book.—Yours truly,

A Member.

Sir,

There are many practices not extensive enough nor sufficiently lucrative to pay for the keeping of a *reliable* qualified assistant, but at the same time an unqualified assistant is an essential in order to attend minor cases, to do rough work, and to act in cases of emergency when the principal is absent.

I make the distinction of *reliable* above because it is well known that many qualified assistants cannot be included under this heading. The reliable qualified assistants are usually paid fair salaries, which they are fully entitled to. But it is by no means to be inferred that, because a man is entitled to place the mystical letters after his name he is reliable.

Unfortunately, as many practitioners know to their cost, a newly qualified man may know quite sufficient of the science of veterinary medicine and surgery, but be lamentably ignorant of the art thereof. Indeed, it is not uncommon to find that clients prefer an unqualified man who has practical knowledge and commonsense, to a qualified assistant who possesses neither.

One would imagine from recent correspondence on the subject that when unqualified assistants are a thing of the past, and when advertising is completely suppressed the profession will attain to that position which everyone desires. But what about the devices that are resorted to in the present day in order to obtain practice? The personal canvassing of other men's clients is freely indulged in with impunity.

It is not considered *infra dig.* for the veterinary surgeon to call on every firm in a city and ask as a favour for the shoeing and treatment of the horses. If he fails in this he gets at an assistant or a servant in the firm, and by underhand means tries to obtain the object he has in view, viz., to get the work from another practitioner. There is no bye-law to prevent him from doing this, and surely such abominable means of competition are far more detrimental and unprofessional than either advertising or keeping unqualified assistants.

We hear a lot about the evils produced by unqualified men, but I think anyone would prefer to have the opposition of such men rather than the underhand means of competition indulged in by many of the newly qualified graduates of the present day. The ordinary rules of professional etiquette are more "honoured in the breach than in the observance" in the veterinary profession, and we should first set our house in order in this respect before devoting our attention to the question of unqualified assistants.

If we wish to improve the social status of the profession we must show the public that we do not descend to trade methods for the purpose of gaining practice. One step has been gained in this direction by the suppression of advertising, but customs far worse than advertising are permitted and indulged in with impunity.

One means of preventing the accession of fresh recruits to the list of unqualified assistants, is to ensure that newly qualified men have a practical knowledge of their work. If they have to get places as qualified assistants in order to obtain their knowledge then we cannot blame the principals for employing unqualified men when the latter are found to be more reliable.—Yours etc.,

"Audi alteram partem."

Sir,

I am very pleased indeed to see that some of your readers have taken this matter up. Now I should like to bring a case under their notice.

A veterinary surgeon was summoned to appear before the Registration Committee last July under bye-law 109, he was found guilty, and gave an undertaking to comply in future with the bye-law. This he failed to do, so he had to again appear before the Registration Committee in October when he again gave the same undertaking. Up to the present I know he has done nothing towards keeping both his promises of reform given to the Registration Committee, but absolutely ignores the whole thing. The V.S. I am referring to associates himself with a man who had a brother a V.S., and that brother he somewhat resembles. The brother is deceased. They take veterinary contracts conjointly, and in every way act as two qualified V.S.'s. The unqualified man conducts the V.S's surgery with impunity and boldly gives professional advice, dispenses medicines, and takes the fees for same, and all this under the cloak of the qualified man's big M.R.C.V.S.

From what I can find out on making enquiries in the neighbourhood, they both treat the prosecution as a huge joke, and laugh at the expense they put the V.S. who reported the matter to, he having to employ a solicitor to appear before the Registration Committee, and apparently all his trouble and expense was in vain.

If nothing is done by the Registration Committee in a flagrant case like this, what on earth is the use of any other V.S. taking the trouble to report other cases? It would, in my opinion, be only waste of time and money. I should be glad to hear the opinion of the profession on this case.—Yours, etc.

Amused.

Aids to Microscopic Diagnosis, by R. Blake Knox. Cap 8vo., 156 pp. and Publishers' advts. Cloth lettered 2/6. Balliere, Tindall & Cox.

The Standard Cyclopedia of Modern Agriculture, Vol. VI. The Gresham Publishing Co.

Communications and Papers Received.—Messrs. H. E. Richardson, E. White Wallis, E. Wallis Hoare, F. H. Gibbings. A Member.

The Rangoon Gazette, The Yorkshire Post, The Daily Mail (Hull), *Western Morning News, The Liverpool Echo, The Nottingham Guardian, Empire.*

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